

Faculty's VGL RhODIS® workshop in South Africa leads to agreement by experts to enhanced international DNA testing of rhinos

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The Faculty of Veterinary Science's Veterinary Genetics Laboratory (VGL) of the University of Pretoria was instrumental in the announcement last week of the international expansion of rhino horn DNA testing at the RhODIS® Rhino DNA Scientific workshop which took place in South Africa in the Kruger National Park and at the University of Pretoria's Onderstepoort Campus where the VGL is based.

According to Dr Cindy Harper, Director of the VGL, a major output of the meeting was that it detailed the requirements of a simplified method to facilitate the sharing and roll out of an improved RhODIS® compatible analysis system to multiple laboratories across the world that can become the international standard capable of producing comparable DNA profiles, which can be loaded onto a global database.

“While the RhODIS® system is already a proven tool for the investigation of rhino poaching cases and has been used in a number of prosecutions, the refinement and roll out of a recognized international forensic rhino DNA standard should positively support enforcement action and investigation of trade routes at an international scale”, Dr Harper said.

RhODIS® is a rhino DNA profiling and database system developed by the Veterinary Genetics Laboratory in collaboration with partners. To date all but one of Africa's rhino range States has contributed samples to the VGL for RhODIS® analysis.

The workshop, funded by USAID, through the Wildlife-TRAPS Project, and the WWF African Rhino Programme, brought together wildlife DNA forensic scientists, enforcement officers and investigators from source, transit and consumer countries of rhino horn. Various branches of South Africa's Police Service were represented as was the country's Department of Environmental Affairs (DEA).

Since the rhino poaching upsurge in Africa started in 2008, over 5,000 rhinos have been poached across the continent. “The reach of the transnational organized criminals behind the poaching has extended to all major rhino range States, undermining rhino conservation successes achieved over the last two decades; threatening both African rhino species if increasing poaching levels cannot be brought under control” said Dr Richard Emslie from the IUCN SSC African Rhino Specialist Group.

The workshop, organized by the VGL, TRAFFIC, WWF and TRACE Wildlife Forensics Network, took scientists and enforcement officers to a rhino crime scene in Kruger National Park, allowing them to see two poached rhinos whose horns had been savagely hacked off with an axe. With the park losing about two rhinos a day to poaching, both black and white populations in the park appear to have started to decline.

Scientists from South Africa, Malaysia, Thailand, Vietnam, Indonesia, Hong Kong, South Korea, Kenya, Botswana, Namibia, the Netherlands, United Kingdom, Australia, Czech Republic, and India participated in DNA sample collection training at the crime scene, using the specific forensic sample kits developed for RhODIS[®].

“This really brings home the reality of the rhino horn trade,” said Dr Jeffrine Rovie from the National Wildlife Forensic Laboratory in Malaysia, “and justifies our recent transfer of 14 seized rhino horn samples to the South Africa Government for RhODIS DNA testing to aid enforcement.”

Delegates also saw the eRhODIS data collection application demonstrated and versions of these apps in other languages could be developed in future.

Workshop delegates and all African rhino range States support the development and use of a single standardized and compatible forensic rhino DNA system globally. RhODIS[®] can also already determine species of African rhino from recovered horn, and the meeting recognised the need to develop it further in the hope that it can also be used to distinguish between the species of Asian rhino.

Dr Joseph Okori, leader of WWF’s African Rhino Programme noted the critical role played by the global forensic community as a major contributor to combating rhino crime; and that DNA analysis is starting to help improve knowledge of trade routes and inform other aspects of rhino management.

Nick Ahlers, who manages the Wildlife-TRAPS Project for TRAFFIC and IUCN said “another aim of this workshop was to build relationships between different scientists from countries important in the illegal rhino horn trade and we’ve certainly achieved this given the positive feedback by the range, transit and consumer countries that have participated this week.”

“Rhino poaching not only threatens to wipe out these iconic species, but is also devastating local communities through associated criminality, violence and theft. DNA forensics is a critical tool in the fight against wildlife crime and the outcomes of this workshop are likely to have impacts beyond rhinos to other species involved in the illegal wildlife trade,” said Dr Sara Carlson, a Biodiversity and Natural Resources Specialist at USAID.

To read more about the organisations that attended the workshop click [here](#)

Author CvB

Last edited by Christoffel van Blerk